isting pulmonary affection went on. At the time of reporting there were twenty-five relative cures—of from some months to ten resp. twenty-five years duration.

The external signs of peritoneal tuberculosis were usually those of an encapsulated ascites simulating a cyst. In but a few cases was this part of a general tuberculosis, and in none was the latter hastened by the operation but always improved. The way in which the favorable effect results is not clear. It cannot be the antiseptic as such was not used in all cases. In one case (where iodoform was dusted on at the operation) no trace of the previously existing tubercles could be found at the autopsy eight months later. Cases have been observed where the walls of an encapsulated ascites presented small vascular excrescences, and again where the peritoneum showed nodules like tubercles, without in either case being actually tubercular.

Esmarch added three genuine cases all cured; Mikulicz two, one cured, the other fatal in three months; and Wagner one, a cure of two and a half years duration at date. Wagner did not even wash out the peritoneal cavity.—Proceed. of XVI Germ. Surg. Congress in *Centbl. f. Chirg.*, 1887, No. 25.

WM. BROWNING (Brooklyn).

V Noteworthy Points in Laparotomy for Visceral Injuries. By T. A. McGRAW, M.D., (Detroit). 1. There are many viscera in the abdomen which are practically immovable—so immovable as to forbid operations upon them through the median line. When a gun-shot wound is so located and so directed as to make the injury of an immovable viscus probable. the external incision should be made with reference to that fact.

2. The course of a gun-shot wound is determined not by chance, but by the operation of immutable laws.

3. When a gun shot is deflected from its course, it is always at an acute angle, and, when deflected by a very soft substance of little resistant power, the angle of deflection must be exceedingly small. When, therefore, a gun shot passes into the abdominal cavity, the deflection of the ball from the time it leaves the aperture of entrance until it strikes the opposite wall, cannot be sufficient to appreciably alter its course.

4. The initial direction of the ball through the abdominal wall indicates very nearly its subsequent direction through the abdominal cavity. The careful study of the wound of entrance is, therefore, of the greatest importance, and no surgeon should open the abdomen for the repair of visceral wounds without first exploring the wound of entrance sufficiently to make sure of its course through the parietes.

5. The ball, after passing through the abdominal cavity, may be deflected by the bones or soft tissues; but as it, in the vast majority of cases, pursues the remainder of its course outside of the abdominal cavity, these deflections should have no influence in determining the line of incision.

6. Gun-shot wounds of tortuous course frequently owe their apparent deviations from a straight line to a change in the shape of the abdominal wall subsequent to the shooting.

7. In general, the course of the bullet through the abdominal wall, prolonged by a line drawn on the external abdominal surface, will indicate the course of the bullet through the cavity if its velocity is great. If at angles of five or of not more than ten degrees with this line, two other lines are drawn on either side of it, beginning at the wound of entrance, we will have represented on the abdominal surface the greatest deflections of which a bullet is capable during its passage through the abdominal cavity. An incision, therefore, along the whole length of the first straight line could not fail to uncover every part of the course of the ball, provided that there has been no subsequent displacement of the injured tissues.

8 For this reason an incision, beginning at the wound of entrance and prolonged to a sufficient distance in its course, is often the very best which the surgeon can make. This is especially true of such wounds as, beginning at a distance from the linea alba, pass in a direct line away from that line.

9. The immovable viscera can be best exposed by incisions made parallel to their long diameters.

10. When abdominal section is made for abdominal wounds, every organ and part of an organ which could possibly have lain in the path of the ball or weapon should be thoroughly explored by the surgeon,

but to examine an exposed viscus or portions of viscera which could not possibly have been injured would be an error in practice.

11. The prognosis of wounds of the empty stomach is not necessarily bad.

12. Large accumulations of fat in the abdominal wall and cavity may sometimes contraindicate laparotomy for visceral wounds.—*Chicago Med. Journ. and Exam.* July, 1887.

VI. Case of Recovery from Penetrating Gun-Shot Wound of the Abdomen, with Wound of Intestine, After Laparotomy and Suture of the Intestine. By T. A. McGraw, M.D., (Detroit). Maggie McMahon, æt. 24 years, was shot in the abdomen at 3 o'clock on Tuesday morning, December 21, 1886. She was carried to St. Mary's Hospital at half past 8 o'clock, and I saw her at 9 o'clock on the same morning. I found her vomiting bile, and complaining of great pain. Her pulse was 120 per minute, her respiration 30 and her temperature 120°F. The bowels were moderately bloated and very tender, and two inches above and two inches inside of the right anterior superior spine of the ilium there was a gun-shot wound with black edges. There was no tympanitic resonance over the liver, no extravasation of fæcal matter, no emphysema, and no general meteorism. The pain was located in the hypogastric right iliac and right lumbar regions. The wound was supposed to have been made by a ball from a revolver of 32 calibre, although that point was never fairly settled. At 12 o'clock, noon, I cut through the abdominal wall at the site of the wound, by making an incision of four inches long in the direction of the fibres of the external oblique muscle, the wound being in the centre of the incision. It was easy to trace the wound into the abdominal cavity by the discoloration of tissues, and it soon became evident that the ball had passed from before backwards, and from above downwards, into the peritoneal sac. My finger, on entering the cavity, immediately detected a hole on the anterior surface of the ascending colon, which I thereupon drew out on to the abdomen. This wound, from which the fæcal matter was constantly pouring, was an oval with its long axis transverse to that of the intestine. It was about half an inch long and a quarter of an inch wide. I sewed it up with a continuous suture of catgut, in a double